

In the Claims:

Please amend Claim 1-41 as follows:

Claim 1. (Amended) A medical device comprising:

a body;
a position sensor at a portion of the body, the position sensor having a core made of a Wiegand effect material; and a winding circumferentially positioned around the core, the position sensor providing signals that determine location coordinates of the portion of the body.

Claim 2. (Amended) The medical device according to Claim 1, wherein the position sensor is used to determine position coordinates.

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Claim 3. (Amended) The medical device according to Claim 2, wherein the position sensor is also used to determine orientation coordinates.

Claim 4. (Amended) The medical device according to Claim 1, wherein the position sensor maintains accuracy of ≤ 1 mm at temperatures greater than 75°C.

Claim 5. (Amended) The medical device according to Claim 4, wherein the position sensor maintains accuracy of ≤ 1 mm at temperatures at approximately 80°C.

Claim 6. (Amended) The medical device according to Claim 1, wherein the core has an outer diameter less than approximately 0.3mm.

Claim 7. (Amended) The medical device according to Claim 6, wherein the core has an outer diameter of about 0.25mm.

Claim 8. (Amended) The medical device according to Claim 7, wherein the winding is attached to the core.

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Claim 9. (Amended) The medical device according to Claim 8, wherein a combination of the core and the winding has an outer diameter less than approximately 0.5mm.

Claim 10. (Amended) The medical device according to Claim 9, wherein the combination of the core and the winding have an outer diameter of about 0.4 mm.

Claim 11. (Amended) The medical device according to Claim 10, wherein the material of the core comprises cobalt.

Claim 12. (Amended) The medical device according to Claim 11, wherein the material of the core further comprises vanadium.

Claim 13. (Amended) The medical device according to Claim 12, wherein the material of the core further comprises iron.

Claim 14. (Amended) The medical device according to Claim 13, wherein the material of the core comprises approximately 20%-80% cobalt.

Claim 15. (Amended) The medical device according to Claim 13, wherein the material of the core comprises approximately 2%-20% vanadium.

Claim 16. (Amended) The medical device according to Claim 13, wherein the material of the core comprises approximately 25%-50% iron.

Claim 17. (Amended) The medical device according to Claim 13, wherein the material of the core comprises approximately 52% cobalt, 10% vanadium and 38% iron.

Claim 18. (Amended) The medical device according to Claim 8, wherein the winding is made of copper.

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Claim 19. (Amended) The medical device according to Claim 3, wherein the position sensor has an accuracy within approximately 0.5 mm.

Claim 20. (Amended) A medical device comprising:

a body;
a position sensor at a portion of the body, the position sensor having
a core made of a high permeable material, the material being magnetic
material that produces a magnetic field that switches polarity and causes a
substantially uniform voltage pulse upon an application of an external field,
the position sensor providing signals that determine location coordinates of the
portion of the body.

Claim 21. (Amended) The medical device according to Claim 20, further comprising a
winding circumferentially positioned around the core.

Claim 22. (Amended) The medical device according to Claim 20, wherein the position
sensor is used to determine position coordinates.

Claim 23. (Amended) The medical device according to Claim 22, wherein the position
sensor is also used to determine orientation coordinates.

Claim 24. (Amended) The medical device according to Claim 20, wherein the position
sensor maintains accuracy of ≤ 1 mm at temperatures greater than 75°C.

Claim 25. (Amended) The medical device according to Claim 24, wherein the position
sensor maintains accuracy of ≤ 1 mm at temperatures at approximately 80°C.

Claim 26. (Amended) The medical device according to Claim 20, wherein the core has an
outer diameter less than approximately 0.3mm.

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Claim 27. (Amended) The medical device according to Claim 26, wherein the core has an outer diameter of about 0.25mm.

Claim 28. (Amended) The medical device according to Claim 27, wherein the winding is attached to the core.

Claim 29. (Amended) The medical device according to Claim 28, wherein a combination of the core and the winding has an outer diameter less than approximately 0.5mm.

Claim 30. (Amended) The medical device according to Claim 29, wherein the combination of the core and the winding have an outer diameter of about 0.4 mm.

Claim 31. (Amended) The medical device according to Claim 30, wherein the material of the core comprises cobalt.

Claim 32. (Amended) The medical device according to Claim 31, wherein the material of the core further comprises vanadium.

Claim 33. (Amended) The medical device according to Claim 32, wherein the material of the core further comprises iron.

Claim 34. (Amended) The medical device according to Claim 33, wherein the material of the core comprises approximately 20%-80% cobalt.

Claim 35. (Amended) The medical device according to Claim 33, wherein the material of the core comprises approximately 2%-20% vanadium.

Claim 36. (Amended) The medical device according to Claim 33, wherein the material of the core comprises approximately 25%-50% iron.

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Claim 37. (Amended) The medical device according to Claim 33, wherein the material of the core comprises approximately 52% cobalt, 10% vanadium and 38% iron.

Claim 38. (Amended) The medical device according to Claim 28, wherein the winding is made of copper.

Claim 39. (Amended) The medical device according to Claim 23, wherein the position sensor has an accuracy within approximately 0.5 mm.

Claim 40. (Amended) The medical device according to Claim 20, wherein the material of the core comprises a copper, nickel and iron alloy (CuNiFe).

Claim 41. (Amended) The medical device according to Claim 20, wherein the material of the core comprises an iron, chrome and cobalt alloy.

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